



1600

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/680,208A

DATE: 09/20/2002
TIME: 07:43:16

RECEIVED

SEP 26 2002

Input Set : A:\PTO.VSK.txt
Output Set: N:\CRF3\09202002\I680208A.raw

TECH CENTER 1600/2900

3 <110> APPLICANT: NovaNeuron Inc.
5 <120> TITLE OF INVENTION: GENE NECESSARY FOR STRIATAL FUNCTION AND USES THEREOF
7 <130> FILE REFERENCE: 36541-0005
9 <140> CURRENT APPLICATION NUMBER: 09/680,208A
C--> 10 <141> CURRENT FILING DATE: 2000-10-06
12 <150> PRIOR APPLICATION NUMBER: 60/158,043
13 <151> PRIOR FILING DATE: 1999-10-07
15 <150> PRIOR APPLICATION NUMBER: 60/217,765
16 <151> PRIOR FILING DATE: 2000-07-12
18 <160> NUMBER OF SEQ ID NOS: 12
20 <170> SOFTWARE: PatentIn Ver. 2.1
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 3236
24 <212> TYPE: DNA
25 <213> ORGANISM: musculus
27 <400> SEQUENCE: 1

28 cactgaagct ggtccacgtc tataaacagg tgacactggc tgcagcaaaa agccattcga 60
29 tccacacaaa ttgatcttct atcatcttgg aatctgaatt gcagggagga gcagtatgta 120
30 agacgaccgt ttaattcagg cattccgaag gcatgagcgc atggattctg tcaccaagcg 180
31 tataaaagga ccttggcatt gggaaaaccta tgacggactg tttttgctgt agaagtaggg 240
32 attttacaga agtctccttg aatttgcctt gcctggggca gttttgcaga ggaacctgcc 300
33 agagatttat tggctggtca gtctcttgtg aaatagtatc atgtgagaaa cagttttag 360
34 aaaaaaacta tacctgggaa gacctttgca acattgttcc ttccatgggc caagactcag 420
35 ttaggaggca taaatctgcc cggaataaac taggccagga tacagccatg tttagttaat 480
36 aatttgggtt tagaattcac acaggcagga ttggtttttt tgtgtcttgg caagtggagc 540
37 atattttaaca tacaggcatg ggaatcctgc ctcttagctt ttcccacctt cttgtctcac 600
38 caagtttttt ctctccaaag gtttcaggga atttctcatt aatggctgat gcaaacttag 660
39 tgaataataa tgaatataaa caatgctcac ctacccaaaa ttatattatt tgcagtcatt 720
40 tgtgataaca caaattttat cgcaatggtt attatttaat ttgtggccac aactgtggt 780
41 tatcttttgt tgtggttgtt tctgagaaaa tgttcttggga tatgtaagt ccaataccag 840
42 tgtgaagtat tgatcccggt cagcaaaaata cagcctaagg tttgtaaaca tcaattctat 900
43 ctacagttcat cagagggcct gagaagctgc ggggcagtg aaagtaaagt atgctgggct 960
44 ggtggtggtc agcctcccgc ctgaagagt accagtgtg gcccgacgga tcgctgagat 1020
45 attctcccat aatggcaaaa aaataggcag tttgatgtga cctgttttagt gtggctctcc 1080
46 tcttttgagc atgtgttagc atttttattt tatactcatc cagtgaactc tgctcttcca 1140
47 agtgtgttca tgtatgtgct agatatatta gcacagcctg ccttctgctg cacaacgcct 1200
48 tagagaccgc gcctttcaat gagcttagct tgtgctctgt ttctgctctc ttaggtctaa 1260
49 actatggtgt cagttttaat agaacaaaag tatgcatctt gccttggtct gagccttttc 1320
50 gttttcaatg ctgacttctc ccctttctct cctgtgctca ccttaacctt ccagagtgt 1380
51 agggacaact ttaaggagg cgtgtccctg gtaggggcat ccctgttcac caggtgcctg 1440
52 tcatcacccc acttgactga catctacctt ggtgactatg ggttcctctt gttttaggg 1500
53 aacggtggct ccaggtggag gcatcaatct gttgggttct ggttcccggc tgcctttgg 1560
54 tttgaaagtc tcttctctgt atattcctac cctgcatttg ctttgtgtgg tgctgatgt 1620

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/680,208A

DATE: 09/20/2002

TIME: 07:43:16

Input Set : A:\PTO.VSK.txt

Output Set : N:\CRF3\09202002\I680208A.raw

```

55 gtgcgcagta ggattcttgg atgactctcc atcagtcaca gactccccct gttgcaaagt 1680
56 gtcaggctga ctgcacagtc accgtaaaat ctgagtcagt cacacacagg ctgtcagcca 1740
57 cggcttccac ttgcatggct attctatttt cacacgtgag tttctgttgc tggctggctg 1800
58 actggcatta tctatgctaa gttgaaatca ggagtgccca gcagagccca tcattctcac 1860
59 tgtctttgaa acaaaagctgt acggtttgat cgatgaacgt atttaaagca tttcatgcaa 1920
60 tgacaaagtg ctcagtagtg gaaggcaggc tgtgaccagt ctgcctgctc cttactataa 1980
61 ttgtgaggat ttgttactgg aacagtacat ggaggcctga ccttgtgggg gcacagggtg 2040
62 gaaccttagc tgaatatagt gtgtgtctca agaggaagtc aggttactag ctcagtgtct 2100
63 aatctccagg tactatatat acatttgccc gttttatctc taatgtgaaa taaatcccca 2160
64 aacacttggt tatcgtgtag cgtacctaaa agactattct attatgggtg tccccacttt 2220
65 cttggtttgg tcccccgat cccccggtct tctgctgtat ctagaacagt gactataaat 2280
66 gatgtatggg aatagtgttt ccatatgatc tgttgtctgg agtatatgct acatgttcaa 2340
67 ttactgtaca aaaacccagt gcagctgatg atgcaaagca gtctctctct gtgtacagtg 2400
68 cccacacctt ttaaaaatca cgtacaascc cagaacactg tgaaacactt aacataagaa 2460
69 aaaacgcagc gtctggattc tttccaagga gaggcgttt ctccacagga acacagtaac 2520
70 aaaagaggtc gcgcgccatc cacaccagc caagacacct cagaggccat agggacaacc 2580
71 tccttgtctg ccaacacctg ctggagcagg ggcacaggtc ccagcaactg atcctcagt 2640
72 gatgggtccg cagtcaaagc cttaatgggc tctcttttga aggggaaaga aagaatttca 2700
73 agcttatgat atccaacatt attatagttg atgagttagt aaattccaaa aaaaaaagat 2760
74 gattttatat gtatgacata aaaaaaatct ttgtaaagt  cgcaagtgca ataattttaa 2820
75 gaggtcttat ctttgcattt ataaattata aatattgtac atgtgtgtaa tttttcatgt 2880
76 attcatttgc agtcttttga tttaaaaaaa ctttactgtt atgtttgtat aatagaacat 2940
77 taatcattta ttataactca gacaagggtg aaataaattc ataattcaaa cagccagtat 3000
78 atatgcata atgggtgtta cattgcaaaa atctctatct ttgttctatt cacatgttta 3060
79 aagaagtaag aaatcttttg tggatatgta attatacata taaagtatat atatatgtat 3120
80 gatacatgaa atatatattag aaatgttcat aattttaatg gatattcttt ggtgtgaata 3180
81 attgaataca acatttttaa aatgaaaaaa aaaaaaaaaa aaaaaa 3236
84 <210> SEQ ID NO: 2
85 <211> LENGTH: 5752
86 <212> TYPE: DNA
87 <213> ORGANISM: musculus
89 <400> SEQUENCE: 2
90 aagtgtaaat aaaataaaca tctaataaaa aaaattacat accatagagg aacaagataa 60
91 tttctgcccc acttcaatac ctccagcgta tagtggtgag gtttggctctg ttgctgtgta 120
92 ttgtaatgta atgttaaatt ctctacctga aggtctaggc ctacaagtga attctcatgt 180
93 ttatagagtt ttgttgtgca aaacttgttc cttaatttaa aactatgggt aaaaaacaaa 240
94 acaaaactgg ctacagccaa taactgaagg ggttacctt gttgaagggg tggaaaagag 300
95 agaggaggaa gaagggaggt caagagaagg agaagaacaa gaggagagga ggaagctgcc 360
96 acgagggtag atgggccaatg agaacttggc caggagaaat agccagtatc tggagtacac 420
97 cactgaggag gtageccaggc tagcagttag aagagtagat taggggttat ttttcccca 480
98 ctccacatag ttatcaaagc caaataaaat aaccatagtc tgagtctcat ctatttgtaa 540
99 gctagtggg tataagatta atttggctgt actacagttt agatttctaa cataggaact 600
100 atcaaaaact tgctcaaaaca agaacatgct gacaatattt taaaatgatt atttatattg 660
101 tttgcacttt ctaaagtttc ttctaaatgt tccatggtca aattaaaaaa tatacatatt 720
102 ggctattaaa ttctgtctaag tggggctgga gagatagctc agaggttaag agcactgact 780
103 gctcttccag aggtcctgag ttcaattccc agcgaccaca tgggtggctca cagccatctg 840
104 taatagatag gatctgacgc cctcttctgg agtgtctgaa gacagctaca atgtactcat 900
105 atatatataa taaataatat tagaaaaatc ttctaagtgt atcatttata gaatatattaa 960
106 tatataaagt aaatgcctca ggaaatataa acttgggaatt aaatcaaaga acttcatgag 1020

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/680,208A

DATE: 09/20/2002

TIME: 07:43:16

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF3\09202002\I680208A.raw

```
107 tagtgggcca caaaaaatgt gtaccagggg aagaccggag ggagggggaga aggaagggat 1080
108 ggagatagaa ttttgccctct gcattcccttg ggctggcaca ggtataatgc tgtgggaatt 1140
109 gggaaactac aaggaagctg caaagctggg cggaactcgt ttccgcaagc tgggctcatc 1200
110 taagtgtcca tgcattggctg ccacactgca gtgaacttta aaacatttgt gttccagaga 1260
111 tgtagagatg ctcaaatag tacaagggcg ggagggaggt atttccagac taagaggaag 1320
112 aaaaaccatt gctgattaaa catctgcata tgagcgcccc cacctccata cacacacaca 1380
113 cacacacaca cacacacaca caaccaaaca gaacaaatac acatgcatgt ctacagcctg 1440
114 caggaacaaa atggtatgtc tgtgaggaac caggagatgc acaggctcta acctctgtct 1500
115 cctacaagcc ctgaagtctg gtcagggtca aatgtacaaa agcaggctaa ggaagctgtt 1560
116 tagtgaaaga tttttttctt caactctagg aacaacctat ttcttaggat ttggagagtg 1620
117 ctcaggagga aacattcaga caactgatgc tctctgtgta cccagattc aggtattggg 1680
118 gtagttagtt gtgctcatgt atgtgctaga tatattagca cagcctgcct tctgctgcac 1740
119 aacgccttag agaccgggccc tttcaatgag ctttagcttgt gctctgtttc tgcctcttta 1800
120 ggtctaaact atggtgtcag ttttaataga acaaaagtat gcatcttgcc ttggcttgag 1860
121 ccttttctgt ttcaatgctg acttctcccc tttctctcct gtgctcactt tacctttcca 1920
122 gagtgttaag gacaactttt aaggaggcgt gtccttggtg ggggcatccc tgttcaccag 1980
123 gtgcctgtca tcaccccaact tgaactgacat ctacccctgg gactatgggt tccctcttgt 2040
124 tgtaggggaa ggtggctcca ggtggaggca tcaatctgtt gggttcttgt tcccggtgac 2100
125 ctttggtttt gaaagtctct tctctgtata ttcctaccct gcatttgctt tgtgtgggtg 2160
126 tgatgctgtg cgcagcagga ttcttgtagt actctccatc agtcacagac tccccctgtt 2220
127 gcaaagtgtc aggtctgact gacagtcacc gtaaaatctg agtcagtcac acacaggctg 2280
128 tcagccacgg cttccacttg catggctatt ctattttcac acgtgagttt ctgttgctgg 2340
129 ctggctgact ggcattatct atgctaagtt gaaatcaggg gtgcccagca gagcccatca 2400
130 ttctcactgt ctttgaaaca aagctgtacg gtttgatcga tgaacgtatt taaagcattt 2460
131 catgcaatga caaagtgtc agtagtgga ggcaggctgt gaccagtctg cctgctcctt 2520
132 actataattg tgaggatttg ttactggaac agtacatgga ggcctgacct tgtgggggca 2580
133 caggggtgga ccttagctga atatagtgtg tgtctcaaga ggaagtcagg gtactagctc 2640
134 agtgctcaat ctcagggtac tatatataca tttgcccggt ttatctctaa tgtgaaataa 2700
135 atccccaaac acttgtttat cgtgtagcgt acctaaaaga ctattctatt atgggtgtcc 2760
136 ccactttctt ggtttggta ccccgatccc ccggtcttct gctgtatcta gaacagtgc 2820
137 tataaatgat gtatgggaat agtgtttcca tatgatctgt tgtctggagt atatgctaca 2880
138 tgttcattta ctgtacaaaa acccagtgca gctgatgatg caaagcagtc tctctctgtg 2940
139 tacagtgtcc caccatttta aaaatcacgt acttgcccag aacactgtga aacacttaac 3000
140 ataagaacaa acgcagcgtc tggattcttt ccaaggagag cagctttctc cacaggaaca 3060
141 cagtaacaaa agaggtccgc cgccatccac acccagcaa gacacctcag aggccatagg 3120
142 gacaacctcc ttgctggcca acacctgctg gagcaggggc acagggtccca gcaactgatc 3180
143 ctcagtggat gggctctgcag ccaaagcctt aatgggctct cttttgaagg ggaagaaaag 3240
144 aattttcaagc ttatgatata caatattatt atagttgatg agttagtaaa ttccaaaaaa 3300
145 aaaagatgat tttatatgta tgacataaaa aaaatctttg taaagtgcgc aagtgaataa 3360
146 atttaaagag gtcttatctt tgcatttata aattataaat attgtacatg tgtgtaattt 3420
147 ttcattgtatt catttgcagt ctttgtattt aaaaaaactt tactgttatg tttgtataat 3480
148 agaacattaa tcatttatta taactcagac aaggtgtaaa taaattcata attcaaacag 3540
149 ccagtatata tgcataatag ggtgttacat tgcaaaaatc tctatctttg ttctattcac 3600
150 atgcttaaaag aagtaagaaa tcttttgtgg atatgtaatt atacatataa agtatatata 3660
151 tatgtatgat acatgaaata tatttagaaa tgttcataat tttaatggat attctttggg 3720
152 gtgaataaatt gaatacaaca tttttaaaat aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3780
153 aaaatttttt tttttttttt ttattccaga gattaaagac actagatctt taaccttgaa 3840
154 gggcaggcaa gaggtcggca atgctgtcaa catagaagtc agggaccatt ttcttcttga 3900
155 acatgcagtc actttcctga ttgctcttca cactctcaag gctccggaat tccgggggtg 3960
```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/680,208A

DATE: 09/20/2002

TIME: 07:43:16

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF3\09202002\I680208A.raw

```

156 tgggtgggctt tgatctcagg actctggagg cagaagcagg cagatctctg tgaatatgag 4020
157 gccagcctgc actacacaga gctccagacc agtcatggct acatcatgaa accctgtctc 4080
158 aaaaagaaaa taaaactgt tgtgtttcta ccatagtgtt aaactcagag tctgagtaat 4140
159 gtcgggctga catgctcggg tgtttaacat accctcagct ttgacgaggc gctgaacagt 4200
160 caaagtctgg ccttggggag cgggtggctgt gtttgtgctc aagtcaccog tgaatcctg 4260
161 attgtgaatt tggacaaccg tgctcttctt cttggccttc catgcaacct ccaacttcat 4320
162 gttggtcatt ttgtcaaac actgtgtgat gtttttatca atatactgcc attccacata 4380
163 tgtagagatg tagtctgcct ggctttcctt ttcttttagcc aatcgaatgc tcttgatcat 4440
164 gccctcaatc tcatctctag cttttatcac gtctctgcta attcctgaaa cttgaatcga 4500
165 agttttcttc tggttcatct caatgggtgat gttcagttcc ttctgaatct cattcagttt 4560
166 ctctactctc tccatgtcaa agtcaactgac acactcatcg tcattgggtgt aggaagctg 4620
167 ctcttttgta atcagttcct ttagccagga gattgttttg ttcacactgt ctaccctga 4680
168 accacatacc tggaaaactg tgtgctctat tttcttttcc aaaaccaggg tgttcttttt 4740
169 gggggaagct tgcttgggaa agccaagaaa ggctaaagag aaaatggaaa ttaatgtttc 4800
170 ttttactccc ttcaacatca aggttaggaa tatgtatttc ataaaagcta acaactcaca 4860
171 ggcaatctta gacatcactg actgcttggc aggcgactgc ttgggggggag ctggagagcc 4920
172 ttctctttct ttcatgttgt cgtaaaaaaa ttgcagaata tggggctgga agataacaac 4980
173 tttaaactctc ttcacagcct gcaactgatt tttctggaca aattcttcaa tggcatctat 5040
174 tategctttt gctactacgt ttgggtcctg ttgagcattt ccttcaaaaa caaaaaaagc 5100
175 acatttttaa aaagtcaagg ttaagatcca cctgcaaaaa aaagctgcaa tataagcgag 5160
176 gaattctagt tgtcacagga aataaaaaatg tctgttccca ctataatcaa tgtagactga 5220
177 taatattatg ccagcaaata gttttgaagt cctaggcaca gtgggaggag gttttgttcc 5280
178 acgctgttca taagccaata cccagcaaaa agaccttaaa ggacaacttg taatttggga 5340
179 cattcacatc tgtcctcttc atctgatctg gctcccagtg tcaactctota acacggctcct 5400
180 tagagggaca atttatccct gcctctgctt gatcttatgc atgtatctgt attcttccag 5460
181 ccacccctgg cgacctgatt tttctaaggc acccaaaact gtaagctact tcttataatc 5520
182 tataattctg agcatattag ttagcctgag cctccaggat atctttcttc cctatactca 5580
183 gtccagtttt agctgccag aaggattcaa agctgatcta cgagtagatc actcctgtct 5640
184 acagcttggt ccagatcttg tttctcaagc cctggaagcc atcagccagg taagattgta 5700
185 aaacaatccc tttctaatac tgggtgtggc ccaaagtga tggccggaat tc 5752
188 <210> SEQ ID NO: 3
189 <211> LENGTH: 475
190 <212> TYPE: DNA
191 <213> ORGANISM: musculus
193 <400> SEQUENCE: 3
194 tgtatgggaa tagtgtttcc atatgatctg ttgtctggag tatatgctac atgttcattt 60
195 actgtacaaa aaccagtgct agctgatgat gcaaagcagt ctctctctgt gtacagtgcc 120
196 ccacctatth aaaaatcag tacttgccca gaacactgtg aaacacttaa cataagaaca 180
197 aacgcagcgt ctggattctt tccaaggaga gcagctttct ccacaggaac acagtaacaa 240
198 aagaggtccg ccgcatcca caccagcca agacacctca gaggccatag ggacaacctc 300
199 cttgctggcc aacacctget ggagcagggg cacaggtccc agcaactgat cctcagtgga 360
200 tgggtctgca gccaaagcct taatgggctc tcttttgaa gggaaagaaa gaatttcaag 420
201 cttatgatat ccaatattat tatagttgat gagttagtaa attccaaaaa aaaaa 475
204 <210> SEQ ID NO: 4
205 <211> LENGTH: 20
206 <212> TYPE: DNA
207 <213> ORGANISM: musculus
209 <400> SEQUENCE: 4
210 agggctgtca atcatgctgg 20

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/680,208A

DATE: 09/20/2002
TIME: 07:43:16

Input Set : A:\PTO.VSK.txt
Output Set: N:\CRF3\09202002\I680208A.raw

```
213 <210> SEQ ID NO: 5
214 <211> LENGTH: 20
215 <212> TYPE: DNA
216 <213> ORGANISM: musculus
218 <400> SEQUENCE: 5
219 aaactcacgg tcggtgcagc 20
222 <210> SEQ ID NO: 6
223 <211> LENGTH: 24
224 <212> TYPE: DNA
225 <213> ORGANISM: musculus
227 <400> SEQUENCE: 6
228 attaacccctc actaaatgct gtat 24
231 <210> SEQ ID NO: 7
232 <211> LENGTH: 30
233 <212> TYPE: DNA
234 <213> ORGANISM: musculus
236 <400> SEQUENCE: 7
237 cattatgctg agtgatatct ttttttttcg 30
240 <210> SEQ ID NO: 8
241 <211> LENGTH: 38
242 <212> TYPE: DNA
243 <213> ORGANISM: musculus
245 <400> SEQUENCE: 8
246 gaacatgtag catatactcc agacaacaga tcatatgg 38
249 <210> SEQ ID NO: 9
250 <211> LENGTH: 32
251 <212> TYPE: DNA
252 <213> ORGANISM: musculus
254 <400> SEQUENCE: 9
255 cagcttctcc acaggaacac agtaacaaag ag 32
258 <210> SEQ ID NO: 10
259 <211> LENGTH: 35
260 <212> TYPE: DNA
261 <213> ORGANISM: musculus
263 <400> SEQUENCE: 10
264 ctatttcaca agagactgac cagccaataa atctc 35
267 <210> SEQ ID NO: 11
268 <211> LENGTH: 7581
269 <212> TYPE: DNA
270 <213> ORGANISM: musculus
272 <220> FEATURE:
273 <221> NAME/KEY: misc_feature
274 <222> LOCATION: (3159)..(3160)
275 <223> OTHER INFORMATION: n may be G, C, T or A
277 <220> FEATURE:
278 <221> NAME/KEY: misc_feature
279 <222> LOCATION: (3383)..(3384)
280 <223> OTHER INFORMATION: n may be G, C, T or A
282 <220> FEATURE:
```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/680,208A

DATE: 09/20/2002
TIME: 07:43:17

Input Set : A:\PTO.VSK.txt
Output Set: N:\CRF3\09202002\I680208A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:11; N Pos. 3159,3160,3383,3384,3392,3397,3399,3401,3404,3406,3408,3694

Seq#:11; N Pos. 6791,7056,7057

Seq#:12; N Pos. 6810,7075,7076